What is claimed is:

1. A ceramic catalyst body wherein a catalyst component is loaded onto a ceramic support having a large number of pores that enable the catalyst to be loaded directly onto a base ceramic surface, wherein the mean particle size of the catalyst particles is 100 nm or less.

2. The ceramic catalyst body according to claim 1, wherein the mean particle size of the catalyst particles is 50 nm or less.

3. The ceramic catalyst body according to claim 1, wherein the pores are comprised of at least one type of defect in the ceramic crystal lattice, microcracks in the ceramic surface and deficiency in an element that composes the ceramic.

4. The ceramic catalyst body according to claim 3, wherein the width of the microcracks is 100 nm or less.

5. The ceramic catalyst body according to claim 3, wherein the diameter or width of the pores is 1000 times or less the diameter of the catalyst ions that are loaded, and the number of the pores is 1×10^{11}/L or more.

6. The ceramic catalyst body according to claim 3, wherein the base ceramic has cordierite for its main component, and the pores are comprised of defects formed by substituting a portion of the constituent elements of the cordierite with a metal element having a different valence.

7. The ceramic catalyst body according to claim 6, wherein the defects are composed of at least one type of oxygen defect and lattice defect, and 4×10^{-6}% or more of cordierite crystals having one or more defects are contained in the unit crystal lattice of the cordierite.

8. A ceramic support having a large number of pores that enable a catalyst to be loaded directly onto a base ceramic surface, wherein the base ceramic has cordierite for its main component, and a metal element

that is substituted for constituent elements of the cordierite is at least one type selected from Fe, Co, Ti, Zr, Ga, Ca, Y, Mo, Ge, W and Ce.

9. The ceramic support according to claim 8, wherein among the specific constituent elements of the cordierite, at least one type of Fe, Co, Ga, Mo or W is used as the substitution element of Si, at least one type of Ti, Ge, Zr or Mo is used as the substitution element of Al, and at least one type of Fe, Ga, Ge, Mo, Ce or W is used for the substitution element of Mg.

10. A ceramic support having a large number of pores that enable a catalyst to be loaded directly onto a base ceramic surface, wherein the base ceramic has cordierite for its main component, and a metal element that is substituted for constituent elements of the cordierite is at least one type selected from transition metals.

11. The ceramic support according to claim 10, wherein the transition metal is at least one type selected from Ca, Ti, Cr, Mn, Fe, Co, Ni, Cu, Zn, Ga, Ge, Sr, Y, Zr, Nb, Mo, In, Sn, Ba, La, Ce, Pr, Nd, Hf, Ta and W.

12. The ceramic catalyst body or ceramic body according to claim 1, wherein the large number of pores are disposed evenly on the surface of the base ceramic.

13. The ceramic catalyst body or ceramic body according to claim 1, wherein the large number of pores are disposed concentrated on the surface layer portion of the base ceramic.

14. A ceramic catalyst body wherein a catalyst component is loaded onto the ceramic support according to claim 8.

15. The ceramic catalyst body according to claim 1, wherein those catalyst particles of the catalyst that bond weakly with the support are removed in advance.

16. A method for producing a ceramic support having a large number of pores that enable a catalyst to be

loaded directly on a base ceramic surface, said method comprising: forming defects to serve as the pores by substituting a portion of the constituent elements of the base ceramic with metal elements having a different valence, and after adding and mixing a solution of the metal elements having a different valence to the starting material of the base ceramic, the base ceramic is sintered to obtain the ceramic support.

17. A method for producing a ceramic support having a large number of pores that allow a catalyst to be loaded directly on a base ceramic surface, said method comprising: forming defects to serve as pores by substituting a portion of the constituent elements of the base ceramic with metal elements having a different valence, and after drying the extruded product of the base ceramic, a coated film containing the metal elements having a different valence is formed on its surface followed by sintering to obtain the ceramic support.

18. A method for producing a ceramic catalyst body comprising loading a catalyst onto a ceramic support having a large number of pores that enable a catalyst to be loaded directly onto a base ceramic surface, wherein after loading the catalyst particles, those catalyst particles that weakly bond with the support are removed by applying chemical, physical or electromagnetic force.

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